## CLAIMS

WHAT IS CLAIMED IS:

1. A fiber optic connector system for connecting at least one optical fiber cable mounted near the edge of a planar substrate through a backplane, each optical fiber cable including a plurality of optical fibers and a terminating ferrule, the longitudinal orientation of the optical fibers within the terminating ferrule defining a longitudinal axis and a forward direction, the ferrule having a first longitudinal range of motion $x_1$ and a ferrule spring element having a longitudinal ferrule spring force $f_n$, the optical connector system comprising:

a substrate housing assembly mounted on the planar substrate including at least one ferrule receiving cavity for receiving the optical fiber ferrule;

a substrate housing assembly spring, the substrate housing assembly having a second longitudinal range of motion, the housing assembly spring controlling movement of the housing assembly along the second longitudinal range of motion and having a longitudinal housing spring force h, wherein

$$h > \sum_1^n f_n$$

2. The connector system of claim 1, wherein the housing assembly spring comprises a first and a second laterally spaced suspension spring members, the first and second suspension spring members allowing a range of angular movement of the housing assembly with respect to the planar substrate.

3. The connector system of claim 1, wherein the housing assembly spring comprises a plurality of individual housing spring members, wherein the summation of the

longitudinal spring forces of the individual housing spring members is greater than the summation of the longitudinal spring forces of the ferrule spring members.

4. A fiber optic connector system for connecting at least one optical fiber cable mounted near the edge of a planar substrate to a backplane member having a first surface and a second surface, the longitudinal orientation of the optical fibers defining a longitudinal axis, the optical connector system comprising:

a backplane housing assembly defining at least one longitudinal receiving cavity, the receiving cavity having a frontal opening along the first surface of the backplane member and a rear opening along the second surface of the backplane member;

a frontal door covering the frontal opening and a rear door covering the rear opening.

5. A bend radius control member for controlling the bend radius of an optical fiber cable comprising a deformation resistant heat-shrunk outer jacket wrapped around the optical fiber cable, wherein the heat- shrunk outer jacket has a desired bend radius curvature.

6. A method for controlling the bend radius of at least a portion of an optical fiber cable having at least one optical fiber, the method comprising the steps of:

a. providing a jacket of a heat shrinkable-material;

b. placing the jacket around the portion of the optical fiber cable;

c. bending the optical fiber cable at a desired bend angle; and

d. shrinking the jacket around the optical fiber cable by the application of heat.

7. A fiber optic connector system for connecting at least one optical fiber cable mounted near the edge of a planar substrate through a backplane, each optical fiber cable including a plurality of optical fibers and a terminating ferrule, the longitudinal orientation of the optical fibers within the terminating ferrule defining a longitudinal axis and a forward direction, the ferrule having a first longitudinal

range of motion $x_1$ and a ferrule spring element having a longitudinal ferrule spring force $f_n$, the optical connector system comprising:

a substrate housing assembly mounted on the planar substrate including at least one ferrule receiving cavity for receiving the optical fiber ferrule;

a substrate housing assembly spring, the substrate housing assembly having a second longitudinal range of motion, the housing assembly spring controlling movement of the housing assembly along the second longitudinal range of motion and having a longitudinal housing spring force h, wherein

$$h > \sum_1^n f_n ;$$

a backplane housing assembly defining at least one longitudinal receiving cavity, the receiving cavity having a frontal opening along the first surface of the backplane member and a rear opening along the second surface of the backplane member;

a frontal door covering the frontal opening and a rear door covering the rear opening.

8. A fiber optic connecting system comprising:

a backplane housing including a plurality of longitudinal receiving cavities wherein each receiving cavity has a frontal opening;

at least one folding door comprising a hinge plate formed integrally with a pair of biasing members to cover the frontal openings of a pair of the plurality of receiving cavities, there being an intervening wall between the pair of receiving cavities; and

means for securing the hinge plate adjacent the intervening wall to provide attachment of the folding door to the backplane housing.

9. A fiber optic connecting system comprising:

a backplane housing including a plurality of longitudinal receiving cavities wherein each receiving cavity has a frontal opening;

at least one folding door comprising a hinge plate formed integrally with a pair of biasing members to cover the frontal openings of a pair of the plurality of receiving cavities, there being an intervening wall between the pair of receiving cavities; and

a connection adapted to secure the hinge plate adjacent the intervening wall to provide attachment of the folding door to the backplane housing.

10. The fiber optic connecting system of claim 9 wherein the at least one folding door includes at least one latch and the intervening wall has at least one latch seat formed therein, the connection produced by engagement of the latch with the latch seat.

11. The fiber optic connecting system of claim 8 wherein the pair of biasing members comprise a metallic material.

12. The fiber optic connecting system of claim 11 wherein the metallic material is selected from the group consisting of stainless steel alloys and beryllium/copper alloys.

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